

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (previously presented): A method of sending first and second signals to a plurality of user equipments, the method comprising:

providing a dedicated channel for each one of the plurality of user equipments,

assigning a carrier frequency of a set of at least first and second carrier frequencies to each one of the dedicated channels,

providing a code-multiplexed shared channel for the plurality of user equipments,

sending one of the first signals to one of the plurality of user equipments on the dedicated channel of that user equipment on the assigned carrier frequency by applying a transmit diversity scheme,

sending one of the second signals to one of the plurality of user equipments on the code-multiplexed shared channel on a carrier frequency assigned to that user equipment by applying a multi-user diversity scheme.

2. (previously presented): The method of claim 1, wherein the dedicated channels is a DSCH type channels and the code-multiplexed shared channel is a HS-DSCH type channel of a HSDPA type transmission system.

3. (previously presented): The method of claim 1, wherein the sending the one of the first signals and the one of the second signals is performed by means of first and second multi-carrier power amplifiers being coupled to first and second antennas, the first and second multi-carrier amplifiers having at least the first and the second carrier frequencies.

4. (previously presented): The method of claim 1, wherein the set of carrier frequencies having a number of n carrier frequencies.

5. (previously presented): A computer program product having program means for sending of first and second signals to a plurality of user equipments, the program means performing the steps of providing a dedicated channel for each one of the plurality of user equipments,

assigning a carrier frequency of a set of at least first and second carrier frequencies to each one of the dedicated channels,

providing a code-multiplexed shared channel for the plurality of user equipments,

sending one of the first signals to one of the plurality of user equipments on the dedicated channel of that user equipment on the assigned carrier frequency by applying a transmit diversity scheme,

sending one of the second signals to one of the plurality of user equipments on the code-multiplexed shared channel on the carrier frequency being assigned to that user equipment by applying a multi-user diversity scheme.

6. (previously presented): A sender for sending of first and second signals to a plurality of user equipments, the sender comprising:

a first component which provides a dedicated channel for each one of the plurality of user equipments,

a second component which assigns a carrier frequency of a set of at least first and second carrier frequencies to each one of the dedicated channels,

a third component which provides a code-multiplexed shared channel for the plurality of user equipments,

a fourth component which sends one of the first signals to one of the plurality of user equipments on the dedicated channel of that user equipment on the assigned carrier frequency by applying a transmit diversity scheme,

a fifth component which sends one of the second signals to one of the plurality of user equipments on the code-multiplexed shared channel on the carrier frequency being assigned to that user equipment by applying a multi-user diversity scheme.

7. (previously presented): The sender of claim 6 further comprising scheduler which provides the multi-user diversity for the code-multiplexed shared channel for sending of one of the second signals only when a constructive channel fade is detected.

8. (previously presented): The sender of claim 6, wherein the fourth component which sends the one of the first signals and the fifth component which sends the one of the second signals are provided by first and second multi-carrier amplifier components being coupled to first and second antenna components, the first and second multi-carrier amplifiers having at least the first and the second frequencies.

9. (previously presented): The sender of claim 6, wherein the set of carrier frequencies having a number of n carrier frequencies.

10. (previously presented): A mobile cellular telecommunication system for sending of first and second signals to a plurality of user equipments within a cell, the telecommunication system comprising:

a first component which provides a dedicated channel for each one of the plurality of user equipments,

a second component which assigns a carrier frequency of a set of at least first and second carrier frequencies to each one of the dedicated channels,

a third component which provides a code-multiplexed shared channel for the plurality of user equipments,

a fourth component which sends one of the first signals to one of the plurality of user equipments on the dedicated channel of that user equipment on the assigned carrier frequency by applying a transmit diversity scheme,

a fifth component which sends one of the second signals to one of the plurality of user equipments on the code-multiplexed shared channel on the carrier frequency being assigned to that user equipment by applying a multi-user diversity scheme.

11. (new): The method of claim 1, wherein the each one of the plurality of user equipments is assigned to the first carrier frequencies or the second carrier frequencies.

12. (new): The method of claim 1, wherein the each one of the plurality of user equipments are split into a first group of user equipments and a second group of user equipments.

13. (new): The method of claim 12, wherein the first group of user equipments are assigned to the first carrier frequencies and the second group of user equipments are assigned to the second frequencies.